# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/767,524 | 01/29/2004 | Jonathan Paul Patrizio | 200314241-1 | 5514 |

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| 22879 | 7590 | 11/08/2006 | | |

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| EXAMINER |
|---|
| CHUNG, EUN HEE |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2123 | |

DATE MAILED: 11/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | Application No. | Applicant(s) |
| **Office Action Summary** | 10/767,524 | PATRIZIO ET AL. |
| | Examiner | Art Unit | |
| | Eun H. Chung | 2123 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>*29 January 2004*</u>.

2a)☐ This action is **FINAL**.    2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☒ Claim(s) *1-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>*29 January 2004*</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>*01/29/2004*</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

## DETAILED ACTION

1. Claims 1-14 are presented for examination.

### *Claim Objections*

2. Claims 1-9 and 11-14 are objected to because of the following informalities:

As per claim 1, the word "and," in line 8 would be better as "and".

As per claim 2-9 and 10-14, the word "A" at the beginning of each claim would be better

as "The".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –   ·
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Stewart et al.

(US Patent No. 7,107,191).

Stewart et al. discloses (Claim 1) a system (Fig. 1) comprising: a simulator (Fig. 1)

including:

a virtual-failure event selector (Fig. 1-4) providing for selecting a virtual-failure event corresponding to a real-failure event that applies to a real computer cluster(Col. 3 lines 52-67, Col. 4 lines 1-9, Col. 8 lines 40-53), and

a virtual-cluster generator (Fig. 1-4) for generating a first virtual cluster in a virtual pre-failure configuration corresponding to a real pre-failure configuration of said real computer cluster (Fig. 1-4, Col. 3 lines 52-65, Col. 5 lines 18-28), and in response to selection of said virtual-failure event, for generating a second virtual cluster in a virtual post-failure configuration corresponding to a real post-failure configuration of said real computer cluster (Fig. 1-4, Col. 3 lines 52-65, Col. 5 lines 18-28, Col. 8 lines 40-53);

(Claim 2) wherein, in said real pre-failure configuration, said real computer cluster runs a software application AC on a first computer of said real computer cluster and not on a second computer of said real computer cluster (Col. 16 lines 48-52, Fig. 4), and wherein, in said real post-failure configuration, said real computer cluster runs said application on said second computer but not on said first computer (Col. 16 lines 48-52, Fig. 4);

(Claim 3) said real computer cluster (Fig. 1-4) including profiling software (Fig. 2) for providing a descriptive profile of said real computer cluster, said virtual-cluster generator generating said virtual cluster in said pre-failure configuration using said descriptive profile (Col. 4 lines 10-30, Col. 5 lines 1-40);

(Claim 4) wherein said real computer cluster is connected to said simulator for providing said descriptive profile thereto (Fig. 1-4, Col. 3 lines 60-63);

(Claim 5) an evaluator for evaluating said virtual cluster in its post-failure configuration (Fig. 1-4, Col. 8 lines 31-39);

(Claim 6) a test sequencer (Fig. 1-4, Col. 12 lines 19-62), said test sequencer selecting different virtual-failure events to be applied to said first virtual cluster in said pre-failure configuration so as to result in different post-failure configurations of said virtual cluster (Fig. 1-4, Col. 12 lines 19-62);

(Claim 7) a statistical analyzer for statistically analyzing evaluations of said different post-failure configurations of said virtual cluster (Fig. 1-4, Col. 8 lines 31-39);

(Claim 8) wherein said test sequencer automatically tests different pre-failure configurations of said virtual cluster against different failure events, said statistical analyzer providing a determination of optimum pre-failure configuration by statistically analyzing evaluations of the resulting post-failure configurations (Fig. 1-4, Col. 8 lines 31-39, Col. 12 lines 19-62);

(Cliam 9) wherein said simulator is connected to said real computer cluster for providing said determination thereto, said real computer cluster automatically reconfiguring itself as a function of said determination (Fig. 1-4, Col. 8 lines 5-30, Col. 12 lines 62-67);

(Claim 10) a method (Fig. 1-4) comprising:

a) generating a first virtual computer cluster in a virtual pre-failure configuration that can serve as a model for a real computer cluster in a pre-failure configuration that responds to predetermined types of failures by reconfiguring to a real post-failure configuration, said reconfiguring including migrating a real application on one real computer of said real computer cluster to another real computer of said real computer cluster (Fig. 1-4, Col. 3 lines 52-65, Col. 5 lines 18-28, Col. 8 lines 5-53, Col. 12 lines 19-67);

b) selecting a sequence of at least one of said predetermined types of failures (Fig.

1-4, Col. 3 lines 52-65, Col. 5 lines 18-28, Col. 8 lines 5-53, Col. 12 lines 19-67); and

c) generating a second virtual computer cluster in a virtual post-failure

configuration that can serve as a model for said real computer cluster in said real post--

failure configuration (Fig. 1-4, Col. 3 lines 52-65, Col. 5 lines 18-28, Col. 8 lines 5-53,

Col. 12 lines 19-67);

(Claim 11) wherein steps a, b, and c are iterated for different configurations of said real

computer cluster and for different sets of said predetermined failure types, said method further

comprising providing a recommended configuration for said real computer cluster (Fig. 1-4, Col.

3 lines 52-65, Col. 5 lines 18-28, Col. 8 lines 5-53, Col. 12 lines 19-67);

(Claim 12) gathering profile information about said real cluster in said first configuration,

wherein said first virtual computer cluster is generated using said profile information (Fig. 3,

Col. 4 lines 10-30, Col. 5 lines 1-40);

(Claim 13) wherein steps a, b, and c are iterated for different configurations of said real

computer cluster and for different sets of said predetermined failure types, said method further

comprising providing a recommended configuration for said real computer cluster (Fig. 1-4, Col.

3 lines 52-65, Col. 5 lines 18-28, Col. 8 lines 5-53, Col. 12 lines 19-67);

(Claim 14) transmitting said recommendation to said real computer cluster; and

implementing said recommended configuration on said real computer cluster (Fig. 1-4).

## *Conclusion*

5.    The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Hardwick et al. (U.S. Pub No 2003/0139918) Evaluating hardware models having

resource contention.

Oshins et al. (US Patent No. 6980944) discloses a system and method for simulating

hardware components in a configuration.

Saitoh et al. (U.S. Patent No. 5634003) Logic simulation apparatus based on dedicated

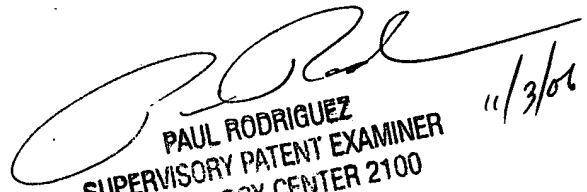hardware simulating a logic circuit.

6.    Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Eun H. Chung whose telephone number is 571-272-2164.  The

examiner can normally be reached on 8:30am-5:00pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul

Rodriguez can be reached on 571-272-3753.  The fax phone number for the organization where

this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be

obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


EHC

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